UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

AUG 28 1991

MEMORANDUM

SUBJECT: Data Review Comments for Region VII Data

FROM: Larry Marchin LM
CLP-TPO, Region VII

TO: Edward Kantor
EMSL-LV

Attached are the review comments for CLP data analyzed for Region VII under SAS No. (lab) 6568-G (BETZAA).

If you have any comments or questions regarding this review, please call me at FTS 276-5170.

Attachments

cc: SMO Action: _____ FYI: X

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OU-00

DPO: [ ] ACTION [ ] FYI Region VII

INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 16897/6568-G LABORATORY BETZA

SDG NO. MGJ001 DATA USER

)W 7/88 REVIEW COMPLETION DATE 8/27/91

NO. OF SAMPLES 5 WATER 10 SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER. CONTRACT/CONTRACTOR

	ICP	AA	Hg	CYANIDE
1. HOLDING TIMES	O	O	O	O
2. INITIAL CALIBRATIONS				
3. CONTINUING CALIBRATIONS				
4. FIELD BLANKS ("F" = not applicable)				
5. LABORATORY BLANKS	X	X		
6. ICS	O			
7. LCS	X	O		
8. DUPLICATE ANALYSIS	O			
9. MATRIX SPIKE	X			
10. MSA		X		
11. SERIAL DILUTION	X			
12. SAMPLE VERIFICATION	O	O		
13. REGIONAL QC ("F" = not applicable)	O	O*		*
14. OVERALL ASSESSMENT	M	X		

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS:

AREAS OF CONCERN: * Compounds were not identified as being present in the PE sample provided.

ENVIRONMENTAL SERVICES ASSISTANCE TEAM -- ZONE II

ICF Technology Incorporated

NSI Technology Services Corp.

The Bionetics Corp.

ESAT Region VII
NSI Technology Services
25 Funston Road
Kansas City, KS 66115
(913) 551-5000

TO: Barry Evans, Data Review Task Monitor/ENSV
THRU: Harold Brown, Ph.D., ESAT Contract Manager/ENSV

FROM: Rebecca K. Estep, ESAT Data Reviewer/ManTech RE RE
THRU: Ronald Ross, ESAT Manager/ManTech

DATE: August 22, 1991
SUBJECT: Review of inorganic data for Cedar Falls FMGP.

TID#:	07-9103-535
ASSIGNMENT#:	923
ICF ACCT#:	302-26-535-02
ManTech S.O.#:	1073-535
ESAT Document#:	ESAT-VII-535-0183

These data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses," July 1, 1988 revision.

The following comments and attached data sheets are a result of ManTech Environmental Technology, Inc.'s review of the above mentioned data from the contract laboratory.

SAS NO.:	6568G	LABORATORY:	BETZPA
CONTRACT NO.:	68-D9-0082	METHOD NO:	CS0788A
SITE:	Cedar Falls FMGP	EPA ACTIVITY:	DSX72
REVIEWER:	Rebecca K. Estep	MATRIX:	Water/Soil

TOTAL METALS, CYANIDE, and MERCURY

SMO SAMPLE NO.	EPA SAMPLE NO.	SMO SAMPLE NO.	EPA SAMPLE NO.
*MGJ001	*DSX72001	*MGJ002	*DSX72002
*MGJ003	*DSX72003	*MGJ004	*DSX72004
*MGJ005	*DSX72005	*MGJ006	*DSX72006
*MGJ007	*DSX72007	*MGJ008	*DSX72008
*MGJ009	*DSX72008D	*MGJ010	*DSX72101
#MGJ011	#DSX72103	#MGJ012	#DSX72104
#MGJ013	#DSX72106F	**MGJ014	**DSX72944P
##MGJ014	##DSX72940P		

* Soil samples
\# Water samples
Water sample for cyanide (CN) analyses only
** Water sample for total metal analyses only

GENERAL

SAS 6568G contained 15 environmental and 14 QC water and soil samples analyzed for total metals, mercury (Hg), and cyanide (CN) at the low level concentration. This package includes one rinsate blank, one field duplicate, and two performance evaluation samples. Data review was performed at level 2.

1. TECHNICAL HOLDING TIMES and PRESERVATION

A. Technical holding times were within quality control limit requirements for all water analyses.

B. No technical holding times or required preservation are specified for soil samples.

2. INITIAL and CONTINUING CALIBRATION

A. Initial and continuing calibrations were within quality control limit requirements.

3. BLANKS

A. No analytes were detected above the contract required detection limit (CRDL) in any blank.

B. Aluminum (Al), cadmium (Cd), calcium (Ca), iron (Fe), magnesium (Mg), barium (Ba), manganese (Mn), zinc (Zn), lead (Pb) by furnace, and sodium (Na) were detected greater than the instrument detection limit (IDL) in the water blanks. Analytes greater than the instrument detection limit (IDL) but less than 5 times the highest level detected in the blank were qualified with a "U" code. Aluminum (Al) and manganese (Mn) in sample DSX72944P and lead (Pb) by furnace in sample DSX72104 were qualified with a "U" code according to the blank rules.

C. Aluminum (Al), cadmium (Cd), calcium (Ca), chromium (Cr), iron (Fe), magnesium (Mg), barium (Ba), manganese (Mn), zinc (Zn), and sodium (Na) were detected greater than the instrument detection limit (IDL) in the soil blanks. Analytes greater than the instrument detection limit (IDL) but less than 5 times the highest level detected in the blank were qualified with a "U" code. Since these analytes in all associated samples were non-detect or greater than the 5 times rule, no data were qualified due to the blank rules.

D. One rinsate blank on the equipment was analyzed for total metals and cyanide. No samples were qualified based on the rinsate blank.

4. ICP INTERFERENCE CHECK

A. All analytes contained in the ICP interference check sample were within quality control limit requirements. Antimony (Sb), potassium (K), and sodium (Na) were found but were not elements present in the AB ICP interference check solution. Since levels detected were below the instrument detection limit (IDL) or levels found in the samples were significantly higher, no data were qualified by the ICP interference check sample.

5. LABORATORY CONTROL SAMPLE

A. The laboratory control sample analyzed for soil samples was within quality control limit requirements.

B. The laboratory control sample analyzed for water samples was outside quality control limit requirements for percent recovery for silver (Ag). Silver (Ag) in sample DSX72103S was "J" coded due to the laboratory control sample rules.

6. DUPLICATES

A. All analytes were within quality control limit requirements for the water and soil samples.

7. MATRIX SPIKE

A. All analytes in the soil matrix spike were within quality control limit requirements for percent recovery except antimony (Sb). Antimony (Sb) in sample DSX72907C was qualified with a "J" code according to the spike rules.

B. All analytes in the water matrix spike were within quality control limit requirements for percent recovery.

8. GRAPHITE FURNACE ATOMIC ABSORPTION (GFAA) SPECTROSCOPY

A. Selenium (Se) and thallium (Tl) in several soil samples and selenium (Se) and lead (Pb) in several water samples had post digestion spike recoveries outside quality control limits. Lead (Pb) in sample DSX72104 would have been "J" coded due to the post digestion spike recovery, however, this qualification was overridden due to qualification by the blank rules. Lead (Pb) in sample DSX72944P was outside quality control limit requirements for the post digestion spike recovery but the sample absorbance was not less than 50% of the post digestion spike absorbance. No data were qualified due to the post digestion spike recovery rules.

B. The method of standard additions was performed for selenium (Se), lead (Pb), and arsenic (As) in several samples. The correlation coefficient for arsenic (As) in samples DSX72004 and DSX72007 was outside quality control limit requirements (less than 0.995) and was qualified with a "J" code according to the standard addition rules.

9. PERFORMANCE EVALUATION AUDIT SAMPLE

A. The performance evaluation samples DSX72940P for cyanide (CN) and DSX72944P for total metals were analyzed together by the laboratory as sample MGJ014. For reporting purposes, cyanide (CN) in sample DSX72944P and all total metals in sample DSX72940P were reported as not analyzed.

B. Performance evaluation audit sample DSX72944P for total metals was submitted to the laboratory for analysis with all analytes contained in the audit being identified. Arsenic (As), copper (Cu), iron (Fe), and nickel (Ni) in sample DSX72944P were detected above the instrument detection limit (IDL) but less than the contract required detection limit (CRDL), thus, these analytes were raised to the CRDL and "U" coded.

C. Performance evaluation audit sample DSX72940P for cyanide (CN) was submitted to the laboratory for analysis with cyanide (CN) not being detected.

10. ICP SERIAL DILUTION

A. All analytes were within quality control limit requirements according to the ICP serial dilution rules for water samples.

B. All analytes were within quality control limit requirements according to the ICP serial dilution rules for soil samples except for calcium (Ca), manganese (Mn), and zinc (Zn). Calcium (Ca) in all soil samples except DSX72002S and DSX72904M and manganese (Mn) and zinc (Zn) in all soil samples except for DSX72904M were "J" coded due to the ICP serial dilution rules.

11. SUMMARY

A. Aluminum (Al) and manganese (Mn) in sample DSX72944P and lead (Pb) by furnace in sample DSX72104 were qualified with a "U" code according to the blank rules.

B. One rinsate blank on the equipment was analyzed for total metals and cyanide. No samples were qualified based on the rinsate blank.

C. Silver (Ag) in sample DSX72103S was "J" coded due to the laboratory control sample rules.

D. Antimony (Sb) in sample DSX72907C was qualified with a "J" code according to the spike rules.

E. The correlation coefficient for arsenic (As) in samples DSX72004 and DSX72007 was outside quality control limit requirements (less than 0.995) and was qualified with a "J" code according to the standard addition rules.

F. Calcium (Ca) in all soil samples except DSX72002S and DSX72904M and manganese (Mn) and zinc (Zn) in all soil samples except for DSX72904M were "J" coded due to the ICP serial dilution rules.

G. Several analytes in several water and soil samples were detected above the instrument detection limit (IDL) but less than the contract required detection limit (CRDL), thus, these analytes were raised to the CRDL and "U" coded.

H. Arsenic (As) in sample DSX72002 was reported by the laboratory as a positive result, however, when taking into account the percent solid arsenic (As) was actually detected less than the contract required detection limit (CRDL). Thus, arsenic (As) in sample DSX72002 was raised to the CRDL and "U" coded.

I. This data package generally meets the requirements for precision, accuracy, and completeness as described in SOW for Inorganic Analysis dated July 1988, with the exceptions noted above.